

MINISTERIAL BRIEFING NOTE

Subject	Current projects involving Machine Zone (MZ)
Date	21 October 2016
Briefing number	BRI-0887

Contact(s) for telephone discussion (if required)				
Name	Position	Direct line	Cell phone	1 st contact
Martin McMullan	Innovation Lead		S9(2)(a)	✓
Fergus Gammie	Chief Executive	S9(2)(a)	S9(2)(a)	

Action taken by Office of the Minister

- Noted
- Seen by Minister
- Agreed
- Feedback provided
- Forwarded to
- Needs change [please specify]
- Withdrawn
- Overtaken by events

21 October 2016

Minister of Transport

Current projects involving Machine Zone (MZ)

1. The purpose of this briefing is to provide you with background information on work with Machine Zone (MZ) to build a rapid prototype, Mobility as a Service (MaaS), marketplace. We are currently testing the prototype with key stakeholders.
2. The New Zealand Transport Agency and Auckland Transport are working together to co-create a working proof of concept for a MaaS product allowing initially Aucklanders to source any safe and reliable mobility service through a single customer facing application. The scope of the proof of concept is to initially focus on Auckland and over time make it available to other regions as a service platform.
3. If successful this will provide citizens with a platform to source and pay for any mobility service including bus, train, taxi, ride share, car pool, autonomous car hail and active modes like bike hire.
4. This could create a national MaaS platform, which could allow us to measure, control and predict demand across the transport system.
5. If put into use the MZ real-time platform may provide the contextual element of our MaaS marketplace as outlined in Appendix 1. The test will assess the suitability of the platform for the transport market. This work is in its very early stages and is a rapid prototype and if successful could provide a key element of a MaaS marketplace.

Background

6. MZ is a privately held technology company, established in 2008, based in Palo Alto, California and is worth approximately US\$6 billion. The Chief Executive Officer and Co-Founder is Gabriel Leydon. MZ generates US\$5 million per day.
7. MZ was among the participants in Y Combinator's Winter 2008 Accelerator program for start-ups. Two years ago, the Ministry of Foreign Affairs and Trade, Los Angeles Consulate, met with Gabriel Leydon through Y Combinator and Founders Fund connections and visited MZ's 900+ development team in California.
8. The MZ platform has a capacity to support up to 450 million messages per second. By comparison, Microsoft Azure supports 10,000 messages per second.
9. In the data messaging stream, MZ can
 - undertake continuous queries
 - support algorithms
 - use Artificial Intelligence /machine learning to manage complex systems in real time
 - manage data so it is not directed to databases for mining but managed in real-time in the stream.
10. MZ will be transformative in its application to transport, logistics, online advertising markets, health (patient care), energy, retail and a range of other markets.

11. The real-time platform delivers data on utilisation and capacity, which previously has not been visible to policy makers and system operators. It allows for utilising data points, dynamically pricing them to test how to optimise the transport network. It brings new tools for balancing the supply and demand.

12. There are a number of benefits, for example commuters could know in real time what car parks are available in advance so they can better plan their journey. This could enable them to participate in contestable real time markets for the car parks (either in the inner city or in the park and ride car parks). The real time pricing for car parks could be a new tool for managing the demand and spreading the load between public and private transport modes to ensure that investment in public transport infrastructure can be optimised.

13. The current trial is in collaboration with Auc

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and

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14. Currently all Auckland Transport bus information is available in real-time through the MZ platform (every two seconds) including speed, location, number of passengers and utilisation of the network and routes. In the coming months the platform could include real-time feeds for trains and ferries operating within the Auckland region.

15. A public beta test group will trial the MZ mobile application (app) in January 2017. The app will allow commuters to optimise their journeys in the Auckland region regardless of the mode of public transport.

16. If the test and trial of the app is successful, the MZ platform could be used to provide the contextual element of the MaaS marketplace and provide the core infrastructure to capture and process any traffic demand management trials (TDM).

17. Appendix 1 highlights the prototype framework for the MaaS marketplace.

18. Appendix 2 and Appendix 3 demonstrate the command centre allowing for real-time reporting on Public Transport Utilisation performance.

19. We will brief you in early 2017 on the outcomes of the tests.

It is recommended that you:

1. **Note** the contents of this briefing.

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Fergus Gammie, Chief Executive

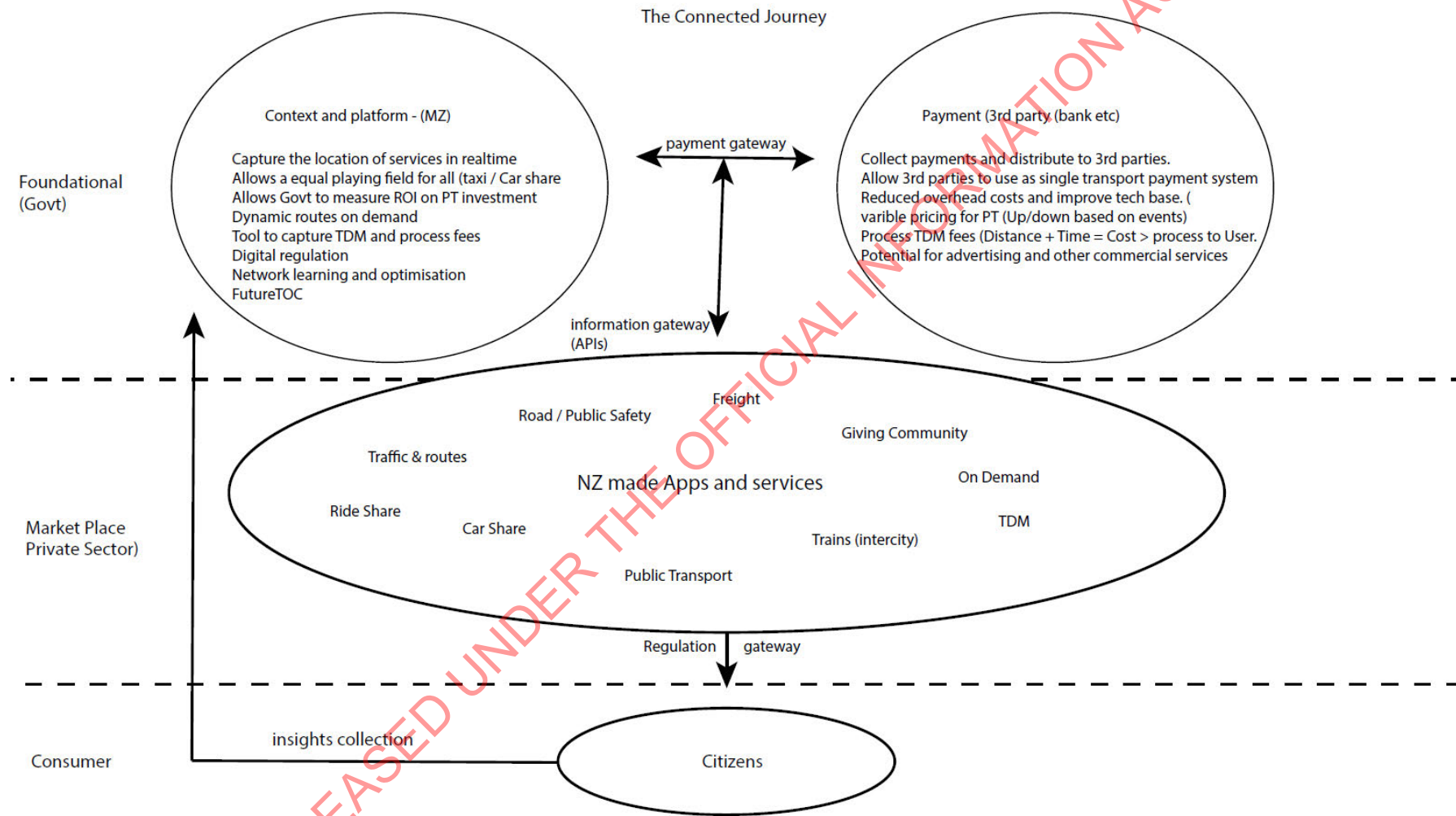
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Hon Simon Bridges, Minister of Transport

Date: 2016

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Appendix 1: Prototype framework for the MaaS marketplace

The top left segment outlines the area where the MZ platform is being tested.



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